BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
(B.Sc. Part - I Information Technology)
(Under the faculty of Science)
To be implemented from June- 2013
Semester-I

Paper No	Name Of Subject	Total Marks	Theory Per Week	Practical Per Week
1.1	Modern Operating Environment-Part-I	50	4	------
2.1	Programming through 'C'-Part-I	50	4	-------
3.1	File and data structure-Part-I	50	4	------
4.1	Digital Electronics Part-I	50	4	-----
5.1	Foundation of Mathematics (Matrices & Calculus) Part-I	50	4	-----
6.1	Business Communication Part-I	50	4	-----
7	Lab Course-I- Based on paper-1.1,2.1,and 3.1	------	-----	2
8	Lab Course-II- Based on paper-4.1.	-----	-----	2
9	Lab Course-III- Based on paper-5.1	-----	-----	2
10	Lab Course- IV-Project & Viva	-------	------	2

Semester-II

Paper No	Name Of Subject	Total Marks	Theory Per Week	Practical Per Week
1.2	Modern Operating Environment-Part-II	50	4	------
2.2	Programming through 'C'-Part-II	50	4	-------
3.2	File and data structure-Part-II	50	4	------
4.2	Digital Electronics Part-II	50	4	-----
5.2	Foundation of Mathematics (Matrices & Calculus) Part-II	50	4	-----
6.2	Business Communication Part-II	50	4	-----
7	Lab Course-I - Based on paper-1.2,2.2,and 3.2	100	-----	2
8	Lab Course-II Based on paper-4.2	100	-----	2
9	Lab Course-III Based on paper-5.2	100	-----	2
10	Lab Course- IV-Project & Viva	100	------	2

SCHEME OF EXAMINATION :-

- The Theory examination shall be conducted at the end of each semester.
- The Theory paper shall carry 50 Marks.
- The practical examination shall be conducted at the end of each year by college itself.
- The Practical paper shall carry 100 marks.

Nature of Practical Question Paper and scheme of marking (ANNUAL)

Laboratory Course –I
Contains Five questions based on paper 1.1,2.1,3.1,1.2,2.2 and 3.2

Rules
1. Solve any three questions
2. Each question carries 25 marks
3. 15 marks for Viva and 10 marks are reserved for journal

Laboratory Course –II
Contains Three questions based on paper 4.1 and 4.2
Rules
1. Solve any two questions
2. Each question carries 25 marks
3. 15 marks for Viva and 10 marks are reserved for journal

Laboratory Course –III
Contains Three questions based on paper 5.1 and 5.2
Rules
1. Solve any two questions
2. Each question carries 25 marks
3. 15 marks for Viva and 10 marks are reserved for journal

Laboratory Course –IV
The project should be undertaken preferably by group of two to four students who join the work and implement the project. The group is expected to complete analysis of problem /Task, System design, coding and minimum five to six reports.

Marks Distribution:

Documentation	-20 Marks
On-line presentation	-30 Marks
Viva	-50 Marks
Total	100Marks

A batch for practical will have 20 students .

Note- All Ist Year practical examinations are conducted internally by college itself. Practical question paper and external examiners are not provided by university. As per University letter- Ref No – SU/B.Sc./5122 Dated-18/2/2013

Paper Number : 1.1

Paper Title : Modern Operating Environment – Part - I

Unit-1 Introduction: (15 lecture)

1.1 Evolution of computers
1.2 Computer generations
1.3 Basic Computer organization - classification and applications of computers, Concept of hardware, software and system.
1.4 Input devices- Keyboard, mouse, joystick, scanner, MICR, OMR, OCR,
1.5 Output Devices- Screen, Printer, plotter,
1.6 Primary storage and secondary storage- RAM, ROM, PROM, EPROM, cache memory, floppy disk, hard disk, CD-ROM

Unit-2 Number Systems: (15 lecture)

2.1 Types of Number System - Binary, octal, hexadecimal,
2.2 Conversion - Converting from one number system to another number system,
2.3 Computer codes- BCD, EBCDIC, ASCII, Gray Code, Excess-3,
2.4 Binary arithmetic's – Addition, subtraction, multiplication, division

Unit-3 Computer Languages.: (15 lecture)

3.1 Need of languages
3.2 Types of languages- High-level, low- level, assembly level, their advantages and disadvantages,
3.3 Translators- Interpreter, Compiler, Assembler.

Unit-4 Networks: (15 lecture)

4.1 Type of Networks - LAN, MAN, WAN, ,
4.2 Network configuration: Basic ISO - OSI,
4.3 Protocols: - What is Protocol?, Why it is needed? ,
4.4 Token ring,
4.5 Internet :-Introduction to Internet terminologies and concept of WWW, HTTP, e-mail, GIAS, Search engine etc.

Lab Course

B.Sc IT I (Part-I)

Sr. No	Topics	No. Of Experiment
1	Demonstration of Windows Operating System	1
2	Desk Top, Icon, Task Bar, Windows Accessories-Notepad, Word pad, Paint	4
3	Identification of various parts of Computer System	1
4	Printing various documents using printer	2

Reference Book

Computer Today- S. Basndara
Computer Fundamentals- P. K. Sinha
Ms- Office – Dreamtech Publication
Operating System – Godbole
Computer Fundamentals- V. Rajaraman
Introduction to Computer and Data Processing- Pawar, Lad, Shinde, Patil (Dreamtech)

Paper Number : 2.1
Paper Title : Programming Through 'C'- Part- I

Unit-1: Algorithm and flow charting: (15 lecture)

1.1 Problem solving,
1.2 Algorithm characteristics,
1.3 Flow charting and different symbols used for flow charting

Unit-2:Introduction to C programming: (15 lecture)

2.1 Importance of 'C',
2.2 Basic structure of c program,
2.3 Process of compiling and running c program,
2.4 Character set, key words and identifiers, constants, variables, data types, declaration of variables and assign values, symbolic constant, operators and expressions.
2.5 Managing input-output operations: Reading and writing characters- getchar(), putchar() Formatted input output- scanf(), Printf()

Unit-3: Control Statements: (15 lecture)

3.1 Decision making with – if, if Else, nesting of if else, switch statement
3.2 Looping – while, do while, for,
3.3 Breaking control statements- break, continue and goto statement.

Unit 4: Array: (15 lecture)

4.1 Definition,
4.2 One and two dimensional array, declaration and initializing one and two dimensional array,
4.3 Multi dimensional array,
4.4 Handling of character strings –
4.5 Reading and writing strings- gets(), puts().
4.6 Comparison of two strings,
4.7 String handling functions

Lab Course

B.Sc IT I (Part-I)

Sr.No.	Topics	No. Of Experiment
1.	Simple programs using printf(), Scanf()	2
2.	Programs based on if statements	3
3.	Programs using switch statement	2
4.	Programs based on While loops	2
5.	Programs based on for loops	3
6.	Programs based on do loops	2

Reference Book

Programming in ANSI C - E. Balagurusamy
Programming in C – Schuam outline Series
Let Us C – Yashwant Kanetkar
Introduction to Programming Using C- A. J Pawar, R. A. Lad, S. S. Shinde, D. R. Patil(Wiley-Dreamtech)

Paper Number : 3.1
Paper Title : File and Data Structure - Part I

Unit-1 Introduction to data structure (15 lecture)

1.1 Concept of data type , Data object ,Abstract data type,
1.2 ADT for varying length character string.

Unit-2 File Organization (15 lecture)

2.1 Concept of file,
2.2 File organization,
2.3 Sequential, index and relative file organization, Fixed and variable length record.

Unit-3 Array as data structure (15 lecture)

3.1 Definition,
3.2 One and two dimensional array implementation,
3.3 Multi dimensional array,
3.4 Primitive operations on array,
3.5 Concept of Parse matrix

Unit 4 Sorting and searching (15 lecture)

4.1 Concept of sorting,
4.2 Types of sorting – Simple sort, Bubble sort, insertion sort ,
Quick Sort and Radix sort,
4.3 Sorting applications,
4.4 Searching- concept, linear search, binary search, searching applications.
4.5 Hasing-Hashing Function & It's Use

Lab Course

B.Sc IT I (Part -I)

Sr.No	Topics	No.Of Experiment
1.	Simple program using array	2
2.	Programs on matrices like add,sub and mul	3
3	Programs to manipulate Parse matrix	1
4	Programs on sorting methods (min one program on each method)	5
5	Programs to search element within using linear search.	1
6	Program to search element using binary search	1

Note : All programs to be written in 'C'

Reference Books

Data Structure using c and c++ - L. A. Tenenbaum
Data Structure through c – Dr. Horowitz Sahani
Data Structure through c and c++ - Jagtap
Data Structure through C – Y. C. Kanetkar
Principle of database management system by J.D. Ullaman
Data Structure through C – V. K. Shukla

Paper 4.1 Digital Electronics-Part I

Unit-1 Number System (15 lecture)

1.1 Number System -Binary,Decimal, Octal, Hexadecimal.
1.2 Inter conversions of number system.
1.3 Codes- BCD, Excess-3, Gray codes.
1.4 Arithmetic operations- Binary addition, subtraction, multiplication, division, 2's complement subtraction.

Unit-2 Digital Signals and logic gates (15 lecture)

2.1 Digital electronic signals and switches
2.2 Concept of digital signal
2.3 Logic levels- Active high, active low signals.
2.4 Logic Gates- AND, OR, NOT, NOR, NAND, EX-OR,EX-NOR (symbol,operations and their truth table)
2.5 Boolean algebra and reduction techniques using K-maps.

Unit 3 Electronic circuit (15 lecture)

3.1 Adder and Substractor-Half adder, full adder, half sutracter, full subtracter,
3.2 2bit by 2 bit multiplier.
3.3 Multiplexers- (MUX)-working of MUX, implementation of expressing using MUX,
3.4 de-Multiplexers (DE-MUX)- implementation of expressing using DE-MUX,
3.5 Concept of Decoder and Encoder.

Unit 4 Basic Electronics (15 lecture)

4.1 Concept of Conductor-Semiconductor, Insulator.
4.2 Semiconductor Diode- Forward bias, Reverse Bias,
4.2.1 Application of Diode -as a Rectifier,
4.3 Introduction to Transistor - (BJT,FET), PNP, NPN Transistors
4.3.1 their Characteristic,Concept of Q-point.
4.3.2Application of Transistor as Switch.
4.4 Zener diode-Characteristic of zener diode,
4.4.1Application -Zener diode as a voltage regulator

LAB COURSE

B.Sc IT I (Part -I)

Sr .No	Topics	No. Of Experiment
1	Study of Basic Gates	1
2	Zener diode as a voltage regulator	1
3	Transistor as a switch	1
4	Inter conversion of gate by using NAND	1
5	Inter conversion of gate by using NOR	1
6	Verification of De-Morgan's Theorems	2

References Book

Fundamentals Digital electronics- R. P. Jain, TMG
Digital Electronics – Derek Molly, PHI
Digital Electronics, An Introduction to theory and practice – William H. Gothmann

Paper – V Foundations of Mathematics
Semester – I (Matrices & Calculus)

Unit 1 – Matrices (15 lecture)

1.1 Adjoint of matrix, Inverse of Matrix.
1.2 Application of matrices to a system of liner homogeneous and nonhomogeneous equations.
1.3 Eigen values and Eigen vectors.

Unit 2 – Successive Differentiation (15 lecture)

2.1 n^{th} order derivative of some standard functions:
(i) $(ax + b)^n$
(ii) $\frac{1}{(ax + b)}$
(iii) $\text{Log}(ax + b)$ (iv) e^{ax} (v) a^{mx} (vi) $\sin(ax + b)$ (vii) $\cos(ax + b)$
(viii) $e^{ax} \sin(bx + c)$ (ix) $e^{ax}\cos(bx + c)$.
2.2 Leibnitz's theorem and it's applications.

Unit 3 – Mean Value Theorems (15 lecture)

3.1 Introduction
3.2 Rolle's theorem.
3.3 Geometrical Interpretation of Rolle's theorem.
3.4 Lagrange's mean value theorem.
3.5 Geometrical Interpretation of Lagrange's mean value theorem.
3.2 Cauchy's mean value theorem.
3.3 Geometrical Interpretation of Cauchy's mean value theorem.

Unit 4 – Partial Differentiation (15 lecture)

4.1 Introduction
4.2 Partial derivative of first order.
4.3 Partial derivative of Higher orders.
4.4 Homogeneous functions.
4.5 Euler's theorem on homogeneous functions.

LAB COURSE

B.Sc IT I (Part I)

Sr.No.	Topics	No. Of Experiments
1	Inverse of Matrix by ad joint method	**1**
2	Solution of system of m liner homogeneous equations in n-unknowns	**1**
3	Solution of system of m linear non-homogeneous equations in n-unknowns	**1**
4	Eigen values and Eigen vectors	**1**
5	Solution of Non-linear equations – (a) Bisection Method (b) Method of False Position (c) Newton-Raphson Method	**3**
6	Interpolation – (a) Newton's Forward Difference Interpolation (b) Newton's Backward Difference Interpolation (c) Lagrange's Interpolation (d) Fitting a curve by Least square method- St. Line, Parabola	**4**

Reference Books

Shanti Narayan : Differential Calculus. S.B. Nimse : Calculus

S.P.Thorat, A.A.Basade, H.V.Patil : A Hand Book Of Mathematics Laboratory – I, Published by SUMS, 2003.

S.S. Sastry: Introduction Methods of Numerical Analysis, PHI.

V.Rajaraman: Computer Oriented Numerical Methods.

Balguruswami: Numerical Methods, PHI.

Mathews: Numerical Methods for Scientist & Engineers, PHI.

S.S. Sastry: Introduction Methods of Numerical Analysis, PHI.

Steven C: Numerical Methods for Engineers with programming and Software Applications.

Richard L Burden, J Douglas Faires, Brooks/Cole, Thompson: Numerical Analysis.

Paper No. 6.1
Paper Title: Business Communication Part-I

Unit I : What is business Communication? (15 lecture)

Communication process, Verbal and non-verbal communication, Barriers to Communication, 7 C's of effective communication

Unit II: Letter Writing (15 lecture)
Business Correspondence, Letters of enquiry & reply to enquiry, letter to placing order and reply to order letter, complaint letter & reply to complaint letter, adjustment letters & reply to adjustment
letters.

Unit III: Negotiation Skills. (15 lecture)

Unit IV: Report writing- (15 lecture)

Formal, informal & Technical Reports

For Internal Evaluation
1] Listening Skill: Listening of various programmers on TV, Radio, CDs, Cassettes ect. Testing of Listening Skill us should be done by asking questing on the above material (5 lecture)
2] Reading Skill:
Reading of abridged & simplified various of Classics
(by orient legman oxford Uty press, Mehata Publishing House etc.)
English News Papers, Reader's Digest etc.

Semester- II
Paper Number : 1.2
Paper Title : Modern Operating Environment - Part- II

Unit-1 Introduction to Operating system (15 lecture)

1.1 Definition of OS, features of OS.
1.2 Types of OS, Basic functions
1.3 Comparison between DOS and Windows ,
1.4 Windows OS- concept of window, windows Explorer, control panel, managing files and folders.

Unit-2 Microsoft Word (15 lecture)

2.1 Use and features and applications of Microsoft Word,
2.2 Creating , formatting and printing the documents, Table option, mail merge
2.3 Microsoft Excel
2.3.1 Use and features and applications of Microsoft Excel,
2.3.2 Creating , formatting and printing the worksheet, Formula, different functions and graphs
2.4 MicroSoft Poewr Point.

Unit-3 Database Management (15 lecture)

3.1 Need of Databses, RDBMS, definition of data and Information,
3.1.1Databases, Concept of DBMS, RDBMS, DBA and Responsibility of DBA, RDBMS Terminology.
3.2 Relation. ii. Attributes. iii. Domain, tuple.

Unit-4 Communication system (15 lecture)

4.1Communication:- Concept of Analog and Digital Signal ,
4.2 Channel Capacity (Shannon.s Theorem),
4.2.1 Transmission Impairments (Attenuation, Dispersion, etc),
4.2.2 Concept of Signal to Noise ratio,
4.3 Encoding/ Decoding (Concept of Parity bit,Hamming Code),
4.4Transmission Media (Twisted Pair, Coaxial Cables, Micro Wave , Optical Fiber and Satellite),
4.5 Definition and Concept of Modulation,
4.6 Communication technique- circuit switching, message switching and packet switching - their advantages and disadvantages.

Lab Course

B.Sc IT I (Part-II)

Sr. No	Topics	No.Of Experiment
1	Managing files and folders using windows Explorer	1
2	Managing desk top using control Panel and other utilities	1
3	Ms-word	5
4	Creating and saving worksheets	1
5	Use of different formula and functions	2
6	creating worksheets and demonstrating various graphs	2
7	Opening new accounts on internet	1

Reference Book

Computer Today- S. Basandara
Computer Fundamentals- P. K. Sinha
Ms- Office – Dreamtech Publication
Operating System – Achyut Godbole
Computer Fundamentals- V. Rajaraman
Introduction to Computer and Data Processing- Pawar, Lad, Shinde, Patil (Dreamtech)

Paper Number : 2.2
Paper Title : Programming Through 'C'- Part-II

Unit 1: User defined functions: (15 lecture)

1.1 Need, multi functioned program, form of a c function, return value and their type,
1.2 Calling a function, category of a functions,
1.3 Functions with array Storage classes auto, external, static and register.

Unit 2 : Pointers: (15 lecture)

2.1 Understanding pointers, accessing address of variable
  2.1.1 Declaration and initializing pointers, pointer expression
2.2 Pointer to array and functions,
  2.2.1 Function call by value and by reference.

Unit 3 : Structures and Unions: (15 lecture)

3.1 Defining and processing a structure.
3.2 Defining and processing a Unions.

Unit 4:File Handling- (15 lecture)

4.1 File Opening Modes, Creating, Reading, Writing and Appending Data
4.2 File copy program.
4.3Formatted Console I/O Functions

Lab Course

B.Sc IT I (Part-II)

Sr.No	Topics	No.of Experiment
1	Programs based on string handling	2
2	Programs based on user defined functions	2
3	Programs based on pointers	2
4	Programs based on Structure	2
5	Programs based on Unions	2
6	Programs based on Files	2

Reference Book

Programming in ANSI C - E. Balagurusamy
Programming in C – Schuam outline Series
Let Us C – Yashwant Kanetkar
Introduction to Programming Using C- A. J Pawar, R. A. Lad, S. S. Shinde, D. R. Patil(Wiley-Dreamtech)

Paper : 3.2
Paper Title :File and Data Structure - Part II

Unit 1 Stack (15 lecture)

1.1 Definition of stack and examples,
1.2 Operations on stack, declaration of stack,
1.2.1 Infix, prefix and postfix concepts
1.3 Stack applications.

Unit 2 Queues (15 lecture)

2.1 Definition, queue as an ADT,
2.2 Implementation of queue, types of queue,
2.3 Operations on queue, Priority queue,
2.4 Queue applications

Unit 3 Link-list (15 lecture)

3.1 Definition and concept of linked list,
3.2 Operations on linked list, linked list as stackand queue,
3.3 Circular and double linked list

Unit 4 Tree (15 lecture)

4.1 Basic concepts of Tree, Binary tree, Types of Binary tree, representation
4.2 Binary tree traversal, threaded binary trees,
4.3 Tree operations, tree applications

Lab Course

B.Sc IT I (Part-II)

Sr.No	Topics	No.of Experiment
1	Programs on linked list	4
2	Programs on implementation of a circular list	2
3	Programs on stacks Push and Pop	2
4	Program on binary Tree	2
5	Program to implement linear queue.	2

Reference Books

Data Structure using c and c++ - L. A. Tenenbaum
Data Structure through c – Dr. Sahani
Data Structure through c and c++ - Jagatap
Data Structure through C – Y. C. Kanetkar
Data Structure through C – V. K. Shukla(Wiley)

Paper 4.2
Paper Tile:Digital Electronics-Part II

Unit 5 Flip- flop (15 lecture)

5.1 Concept of sequential circuit,
5.2 S-R, J-K, preset and clear, master slave,JK-MS, D and T flip flops, their truth tables and excitation tables
5.3 Conversion from one type to another type of flip flop.
5.4 Registers.
5.5 Logic families and their characteristics.
5.6 Characteristics of digital IC's –7402, 7400, 7408, 7475, 7474.

Unit 6 Multi-vibrator (15 lecture)

6.1 What is Multi-vibrator?
6.1.1 Types of Multivibrator:Astable,Monostable,Bistable.
6.2 Block diagram of IC555
6.2.1 Application of IC555 as Astable and Monostable (Calculation of frequency and pulse width)
6.3 Crystal clock using invertor.
6.4 Clock circuit using NAND gate.

Unit 7 Memory Organization (15 lecture)

7.1 Concept of Diode matrix ROM
7.2 Speed and cost range of memory devices.
7.3 Memory organization-
7.3.1Building the required memory size by using available memory Chips.
7.3.2 Memory address map.

Unit 8 Introduction to telecommunication (15 lecture)

8.1 Concept of Modulation.
8.1.1Need for modulation system
8.2 Types of modulation –AM,FM,PM.
8.3 AM :- Definition of AM, Modulation index, Power relation in AM
8.3.1 Generation and Demodulation of AM.
8.4 FM: - Definition of FM, Bandwidth, Noise triangle
8.4.1 Per-emphasis and De- emphasis.
8.4.2 Difference between AM and FM.
8.5 PM: - Definition of PM.
8.6 Introduction to Digital Communication: PSK, ASK, FSK.

Lab Course

B.Sc IT I (Part -II)

Sr .No	Topics	No. Of Experiment
1	IC-555 as Astable Multivibrator	1
2	IC-555 as Astable Multivibrator	1
3	IC-555 as Mono stable Multivibrator	1
4	Study of D and edge triggered D flip flop	1
5	Study of R-S and J-K flip flop	1
6	Half and full Adder	1
7	Multiplexer and De-Multiplexer using IC's	1
8	Crystal clock using NAND gate	1
9	Architecture of 80386, 486 and Pentium system	1
10	Study of counter Equivalence	1

References

Fundamentals Digital electronics- R. P. Jain, TMG
Digital Electronics – Derek Molly, PHI
Digital Electronics, An Introduction to theory and practice – William H. Gothmann

Paper No:5.2
Paper Title:-Numerical Methods

Unit 5 – Errors in Numerical calculations and Solution to Algebraic and Transcendental Equations. (15 lecture)

5.1. Introduction
5.2. Errors
  5.2.1. Absolute Error.
  5.2.2. Relative Error.
  5.2.3. Percentage Error.
5.3. Solution to Algebraic and Transcendental Equations
  5.3.1. Bisection Method.
  5.3.2. Method of False Position.
  5.3.3. Newton – Raphson Method

Unit 6 – Interpolation (15 lecture)

6.1. Introduction.
6.2. Forward Difference.
6.3. Backward Difference.
6.4. Newton's Forward Difference Interpolation.
6.5. Newton's Backward Difference Interpolation.
6.6. Lagrange's Interpolation.
6.7. Least – Square Curve Fitting Method.
  6.7.1. Fitting a straight line.
  6.7.2. Fitting parabola.

Unit 7 – Solution of Simultaneous Algebraic Linear Equations (15 lecture)

7.1. Cramer's Rule
7.2. Gauss Elimination Method.
7.3. Gauss – Jordan Method.
7.4. Gauss – Seidel Method.

Unit 8 – Numerical Solution of Ordinary Differential Equations & Numerical Integration (15 lecture)

8.1. Numerical solution of 1st and 2nd order differential equations.
  8.1.1. Taylor Series.
  8.1.2. Euler's Method
  8.1.3. Euler's Modified Method
  8.1.4. Runge – Kutta Method (2nd, 4th order)
  8.2. Numerical Integration.
  8.2.1. Trapezoidal Rule.
  8.2.2. Simpson's $1/3$ Rule.

8.2.3. Simpson's $^3/_8$Rule.

Mathematics Lab Practical

B.Sc IT I (Part-II)

7	Solution of Simultaneous Algebraic Linear Equations (a) Gauss Elimination Method (b) Gauss – Jordan Method (c) Gauss – Seidel Method	3
8	Numerical solution of Ordinary Differential Equations (a) Euler' Method (b) Euler's Modified Method (c) Runge – Kutta Method (2nd , 4th Order)	3
9	Numerical Integration (a)Trapezoidal Rule. (b)Simpson's $^1/_3$Rule. (c)Simpson's $^3/_8$Rule.	3

Reference Books

Shanti Narayan : Differential Calculus. S.B. Nimse : Calculus

S.P.Thorat, A.A.Basade, H.V.Patil : A Hand Book Of Mathematics Laboratory – I, Published by SUMS, 2003.

S.S. Sastry: Introduction Methods of Numerical Analysis, PHI.

V.Rajaraman: Computer Oriented Numerical Methods.

Balguruswami: Numerical Methods, PHI.

Mathews: Numerical Methods for Scientist & Engineers, PHI.

S.S. Sastry: Introduction Methods of Numerical Analysis, PHI.

Steven C: Numerical Methods for Engineers with programming and Software Applications.

Richard L Burden, J Douglas Faires, Brooks/Cole, Thompson: Numerical Analysis.

Paper No. 6.2
Paper Title: Business Communication Part-II

Unit I : Developing oral skills through interviews, group discussions & seminars etc. (07 lecture)

Unit II: Information transfer & interpretation of data (10 lecture)

Unit III: Modern office communication Notices, Agenda, minutes, letters related to appointments, letter of acceptance or joining report application letter for transfer (15 lecture)

Unit IV: Developing vocabulary and avoiding errors in written English (18 lecture)

For Internal Evaluation
Spoken & written skills:
1] Express Yourself (about family, friends, interests, ambitions etc.) (5 lecture)
2] Group discussions Interviews, telephonic conversation & Various communication situations, sending E-mail, power point presentation, etc. (5 lecture)

Reference Books

1. Handbook of Communication Skills in English – by R.L. Kulkarni(Phadke Prakashan, Kolhapur.)
2. Business Communication – By Dr.Prakash M.Herekar (Mehta Publishing House Kolhapur)
3. Communication for business : A Practical Approach by Shirley Taylox(Pearson Education Ltd.)
4. Business Communication By Mary Allen Guffey
5. Communication Skills for Engineers (Pearson EducationLtd.)
6. Learn Reading – By Sahrolyn Pollard Durodola (Anmol Publications Pvt. Ltd.New Delhi)
7 Oral Skills by G.V. Kulkarni
8 English for Communication :A Test book of B.Sc.-I(Shivaji University Press)
9 English for Communication :A Test book of B.A.-III(Shivaji University Press)
10 Effective Business Communication- by Herta & Murphy. H.W. Hildebrandl & J.P. Thomas (McGraw Hill)

(B.Sc. Part - I Information Technology)
(Under the faculty of Science)
Equivalence in accordance with titles and contents of papers (For Revised Syllabus)

SrNo	Old Paper No	Title Of Old Paper	New Paper No	Title Of New Paper
1.	1.1	Modern Operating Environment- Part-I	1.1	Modern Operating Environment- Part-I
2.	1.2	Modern Operating Environment- Part-II	1.2	Modern Operating Environment- Part-II
3.	2.1	Programming Through 'C'-Part-I	2.1	Programming Through 'C'-Part-I
4.	2.2	Programming Through 'C'-Part-II	2.2	Programming Through 'C'-Part-II
5.	3.1	File and Data Structure Part-I	3.1	File and Data Structure Part-I
6.	3.2	File and Data Structure Part-II	3.2	File and Data Structure Part-II
7.	4.1	Digital Electronics Part-I	4.1	Digital Electronics Part-I
8.	4.2	Digital Electronics Part-II	4.2	Digital Electronics Part-II
9.	5.1	Foundation of Mathematics (Matrices & Calculus) Part-I	5.1	Foundation of Mathematics (Matrices & Calculus) Part-I
10.	5.2	Foundation of Mathematics (Numerical Methods) Part-II	5.2	Foundation of Mathematics (Matrices & Calculus) Part-II
11.	6.1	Business Communication Part-I	6.1	Business Communication Part-I
12.	6.2	Business Communication Part-II	6.2	Business Communication Part-II
13.	Lab course-I	Lab Course-I Based On Paper-1.1,1.2,2.1,2.2,3.1,3.2	Lab course-I	Lab Course-I Based On Paper-1.1,1.2,2.1,2.2,3.1,3.2
14.	Lab course-II	Lab CourseII- Based on paper-4.1, 4.2	Lab course-II	Lab CourseII- Based on paper-4.1, 4.2
15.	Lab course-III	Lab CourseIII- Based on paper-5.1, 5.2	Lab course-III	Lab CourseIII- Based on paper-5.1, 5.2
16.	Lab course-IV	Lab Course-IV Project and Viva	Lab course-IV	Lab Course-IV Project and Viva